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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER				
LE, BRIAN Q				
ART UNIT		PAPER NUMBER		
2624				
NOTIFICATION DATE		DELIVERY MODE		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/680,256

Applicant(s)

NANBU, KYOJIRO

Examiner

BRIAN Q. LE

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7, 8, 10, 11, 14, 33 and 34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14 and 34 is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-8, 10-11, and 33 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB08)
Paper No(s)/Mail Date 12/19/2007.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ ~~Notice of Informal Patent Application~~
- 6) ☐ Other: _____.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(c), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(c) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03/24/2008 has been entered.

Response to Arguments

2. Applicant's arguments, see Remarks, filed 03/24/2008, with respect to the rejection(s) of claim(s) 1-3, 7-8, 10-11 and 33 under 35 U.S.C. 102(e) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Lennon et al. U.S. Patent No. 6,718,063.

3. Regarding the rejection of claims 1-5, 7-8, 10-11, 14, and 33-34 under 35 U.S.C. 112, first paragraph, the arguments of the Applicant filed on 03/24/2008 have been considered persuasive and thus the rejection is withdrawn.

Information Disclosure Statement

4. The information disclosure statement filed 12/19/2007 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because a copy of the translation is required if a written English-language translation of a non-English-language document, or portion thereof, is within the possession, custody, or control of, or is readily available to any individual designated in § 1.56(c) (see 37 CFR 1.98). It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a).

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-3, 7-8, 11 and 33 are rejected under 35 U.S.C. 102(e) as being anticipated by Lennon et al. U.S. Patent 6,718,063.

Regarding claim 1, Lennon teaches an image processing apparatus (FIG. 7) comprising:

Decision means for deciding a similarity between a first pixel and a second pixel of an image based on a plurality of images (computing similarity between two images) (column 2, lines 40-43) obtained by photographing an identical subject (homogenous regions) (column 2, lines 20-28 and 40-45) at different times (camera takes images at different time or image's frames are recorded at different times) (FIG. 7, element 730 and column 6, lines 25-30); and

Average means for subjecting the first pixel and the second pixel to weighted averaging on a basis of a decided result by the decision means (column 2, lines 45-50 and column 7, lines 29-36).

Regarding claim 2, as discussed in claim 1, Lennon further teaches an image processing apparatus (FIG. 7) comprising:

Numerical means for giving a weight which is determined by the similarity between the first pixel and the second pixel decided by the deciding means (assigning weighting function to pixels in determining a similarity) (column 2, lines 45-50 and column 7, lines 38-45); and

Average means for subjecting values of the first pixel and the second pixel to weighted averaging by using the weight numerically given (distance metric averaging) (column 7, lines 38-45).

For claim 3, Lennon teaches the image processing apparatus wherein the average means obtains a new pixel value concerning the first pixel, as a weighted average of a plurality of pixels (weighted function average value between two images of plurality of pixels) (column 3, lines 45-50 and 63-65).

Referring to claim 7, Lennon also teaches the image processing apparatus as defined wherein plurality of images are obtained by photographing the identical subject with the imaging equipment under different processing conditions (different conditions such as pixel intensities, and contextual information) (column 4, lines 45-52).

For claim 8, please refer back to claim 7 for further teachings and explanations.

Regarding claim 11, Lennon teaches the image processing apparatus (FIG. 7) further comprising:

Image average means for averaging a first image and a second image (average images of pixels of two images) (column 2, lines 40-50),

Wherein the first image is obtained by subjecting the image to averaging processing with the average means (column 2, lines 40-50), and the second image is obtained by subjecting the image to processing different from the averaging processing (assign semantic labels) (column 2, lines 55-60).

For claim 33, please refer back to claim 1 for further teachings and explanations.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Lennon et al. U.S. Patent 6,718,063 and Tanaka et al. U.S. Patent No. 5,943,442 as applied to claims 1-2 above.

For claim 10, Lennon discloses an image processing apparatus (FIG. 7) further comprising:

Means for comparing (computing the similarity) (column 2, line 40) corresponding pixel values of the plurality of images in coordinates of the first pixel (column 5, lines 25-48), and a second corresponding pixel values of the plurality of images in coordinates of the second pixel (column 5, lines 25-48),

Wherein the decision means decides the similarity between the first pixel and the second pixel (computing the similarity) (column 2, lines 40-42) in a predetermined one of the plurality of images (initialized parameters) (column 4, lines 45-50).

Lennon does not explicitly teach a means for comparing wherein vectors are constructed by arraying corresponding pixel values of the plurality of images. Tanaka teaches a method of comparing (matching) (abstract and FIG. 7, S1) wherein vectors (vector) are constructed (FIG. 8, S3; FIG. 24, S2a and S2b) by arraying corresponding pixel values of the plurality of images (column 10, line 15 to column 11, line 30). Modifying Lennon's method of comparing images according to Tanaka would be able to have vectors (vector) to be constructed (FIG. 8, S3; FIG. 24, S2a and S2b) by arraying corresponding pixel values of the plurality of images (column 10, line 15 to column 11, line 30). This would improve processing because it would be able to provide maximum correlation value (abstract) and therefore, it would have been obvious to one of the ordinary skill in the art to modify Lennon according to Tanaka.

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lennon et al. U.S. Patent 6,718,063 as applied to claim 1 above, and further in view of Qian et al. U.S. Patent No. 6,195,450.

Regarding claim 4, as discussed in previous claims, Lennon teaches an image processing apparatus wherein the average means includes determination means for determining the weighting factor (weighting function) (column 2, line 49) on the basis of the decided result (column 2, lines 40-53). Lennon does not explicitly teach a multiplication means for multiplying values of the first pixel and the second pixel by the weighting factor. Qian further teaches an image processing wherein comprises a multiplication means for multiplying values of the first pixel and the second pixel by the weighting factor (column 12, lines 18-22). Modifying Lennon's method of image processing according to Qian would be able to scale pixels with a factor so that pixels corresponding to relative small values can have similar values to pixels' large values for further analysis (column 3, lines 24-30). This would improve processing and therefore, it would have been obvious to one of the ordinary skill in the art to modify Lennon according to Qian.

Allowable Subject Matter

10. Claims 14 and 34 are allowed.

11. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

CONCLUSION

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Q. Le whose telephone number is 571-272-7424. The examiner can normally be reached on 8:30 A.M - 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Werner can be reached on 571-272-7401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Brian Q Le/
Primary Examiner, Art Unit 2624
May 20, 2008